

ABSTRACT OF THE DISCLOSURE**COMMUNICATION RECEIVER WITH SIGNAL PROCESSING FOR BEAM
FORMING AND ANTENNA DIVERSITY**Inventors:

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10 The present invention provides a technique to reduce
the number of RF components by using digital signal
processing functions in wireless receivers having two or
more antennas, which results in the reduction of system
cost. The reduction occurs by using a multiplexer or
switch to sample the signal received by each of the
antennas. The sampling rate of the multiplexer or switch
15 is greater than the Nyquist required sampling rate (F_s) of
the received signal bandwidth. The sampled signal is a
multiplexed single analog (RF) signal, which only requires
one chain of receiver components. A signal processor then
is able to demultiplex the received signal at a lower
20 frequency and can perform several functions including
antenna diversity and beam forming utilizing digital
signals at IF or baseband frequencies.